

Technical Report 963

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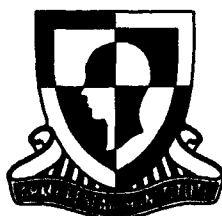
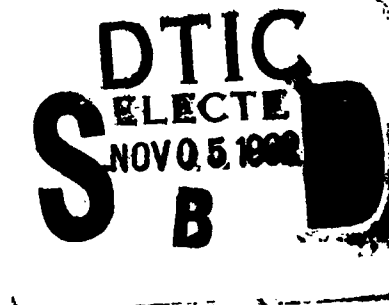


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# Gender and Ethnic Effects in the 1990 Army Career Satisfaction Survey

Mary Sue Hay  
U.S. Army Research Institute

October 1992



United States Army Research Institute  
for the Behavioral and Social Sciences

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**Technical Report 963**

# **Gender and Ethnic Effects in the 1990 Army Career Satisfaction Survey**

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## FOREWORD

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) conducts research to enhance the U.S. Army's ability to manage its personnel effectively. Recent world events require a reduction in the size of the force while at the same time maintaining equitable opportunities for all the soldiers who serve. The 1990 Army Career Satisfaction Survey (ACSS) was developed to find out what the Army's active duty personnel think about the downsizing of the Army. This report presents analyses of ACSS data to determine if there are ethnic and/or gender differences in soldiers' opinions and beliefs about downsizing.

This work is part of the mission of the Manpower and Personnel Policy Research Technical Area of ARI's Manpower and Personnel Research Division, which is to carry out research designed to aid the Army in recruiting and retaining high-quality personnel. Preliminary analyses of gender and ethnic differences in ACSS results were presented to the Office of the Assistant Secretary of the Army, Manpower and Reserve Affairs, in February 1991. Results discussed here will help Army personnel officials and planners to formulate downsizing policies and to respond to concerns about the Army's downsizing process.



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# GENDER AND ETHNIC EFFECTS IN THE 1990 ARMY CAREER SATISFACTION SURVEY

## EXECUTIVE SUMMARY

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### Requirement:

As the Army reduces in size, there is a need to determine how force reductions are perceived by soldiers, especially in terms of equitability for women and minorities. Analyses of ethnic and gender differences in career intentions and attitudes toward downsizing will aid in planning and in responding to concerns about equitable treatment.

### Procedure:

The 1990 Army Career Satisfaction Survey (ACSS) was developed, at the direction of the Chief of Staff of the Army, to determine the attitudes of the Army's active duty force toward downsizing. Selected data from the ACSS were analyzed to investigate ethnic and/or gender differences in soldiers' opinions and beliefs. Analyses focused on ACSS items that addressed career opportunities and intentions, perceptions of Army work and training, and attitudes toward the methods and results of downsizing.

### Findings:

Minority soldiers, both men and women, appear to have more interest in an Army career and more confidence about their opportunities in the Army than White soldiers do. Among men, minority soldiers also seem to believe that the knowledge, skills, and attitudes gained from their Army experience have greater applicability to civilian work; this ethnic difference is not found among women. Minority soldiers are both more and less optimistic than White soldiers about the downsizing. They are more optimistic about the Army's ability to maintain a high-quality force but are also more likely to believe that they will be targeted for separation during the downsizing.

#### Utilization of Findings:

Results discussed here will help Army personnel officials and planners to formulate downsizing policies and to respond to concerns about the fairness of the Army's downsizing process.



# GENDER AND ETHNIC EFFECTS IN THE 1990 ARMY CAREER SATISFACTION SURVEY

## CONTENTS

	Page
INTRODUCTION . . . . .	1
METHOD . . . . .	1
ACSS Questionnaire . . . . .	1
Survey Sample . . . . .	1
Response Rates and Accuracy . . . . .	2
Data Analyses . . . . .	2
RESULTS AND DISCUSSION . . . . .	11
Career Opportunities and Intentions . . . . .	11
Perceptions of Army Work and Training . . . . .	14
Attitudes Toward Downsizing . . . . .	19
Summary Tables . . . . .	25
SUMMARY . . . . .	25
REFERENCES . . . . .	31

## LIST OF TABLES

Table 1. Margins of Error for Subgroups . . . . .	2
2. Items Included in Analysis . . . . .	3
3. MANOVA Results . . . . .	7
4. Univariate ANOVA Results for Ethnic Differences Among Men . . . . .	8
5. Univariate ANOVA Results for Ethnic Differences Among Women . . . . .	9
6. Item Means for Men and Women in the Four Ethnic Groups . . . . .	10
7. Significant Ethnic Group Differences Among Men . . . . .	26
8. Significant Ethnic Group Differences Among Women . . . . .	27

## CONTENTS (Continued)

Page

### LIST OF FIGURES

Figure	1. Mean responses to "I would stay in the Army for 20 or more years even if I could retire earlier." . . . . .	12
	2. Mean responses to "It would take a lot to convince me to stay in the Army beyond my current obligation or enlistment." . . . . .	12
	3. Mean responses to "I am confident I will be promoted as high as my ability and interest warrant if I stay in the Army." . . . . .	13
	4. Mean responses to "As the Army becomes smaller, how confident are you that you will be able to stay in the Army and be promoted on or ahead of schedule?" . . . . .	13
	5. Mean responses to "Do likely reductions in the size of the U.S. Army make you more or less interested in serving in the U.S. Army?" . . .	14
	6. Mean responses to "The kind of work I enjoy most is available only in the military." . . .	15
	7. Mean responses to "I have been taught valuable skills in the Army that I can use later in civilian jobs." . . . . .	15
	8. Mean responses to "What effect, if any, have your Army experiences had on the development of specific job knowledge, skills, and abilities that will help you obtain a civilian job?" . .	16
	9. Mean responses to "What effect, if any, have your Army experiences had on the development of personal characteristics and attitudes that will help you obtain a civilian job?" . . . . .	17
	10. Mean responses to "The current evaluation/selection system is effective in promoting the best soldiers." . . . . .	20

## CONTENTS (Continued)

	Page
Figure 11. Mean responses to "The current evaluation/ selection system would be effective in selecting those to be separated during downsizing." . . . . .	21
12. Mean responses to "As the Army becomes smaller, how confident are you that the best officers will stay?" . . . . .	21
13. Mean responses to "As the Army becomes smaller, how confident are you that the best NCOs will stay?" . . . . .	22
14. Mean responses to "As the Army becomes smaller, how confident are you that the best junior enlisted soldiers will stay?" . . . . .	22
15. Mean responses to "How likely is it that you will be targeted to leave the Army involuntarily?" . . . . .	23
16. Mean responses to "How likely is it that you will be offered an early out?" . . . . .	23
17. Mean responses to "I believe that the Army leadership will make the best decisions to maintain a quality Army." . . . .	24
18. Mean responses to "The Army will protect my benefits and retirement." . . . . .	24

# GENDER AND ETHNIC EFFECTS IN THE 1990 ARMY CAREER SATISFACTION SURVEY

## Introduction

The 1990 Army Career Satisfaction Survey (ACSS) was developed by the U.S. Army Research Institute (ARI) to investigate soldiers' attitudes, perceptions, and intentions concerning the downsizing of the U.S. Army. In April 1990, ARI was directed by the Chief of Staff of the Army to conduct such a survey in order to help personnel officials prepare for downsizing. Topics covered by the survey questionnaire included attitudinal areas such as career plans and intentions, views on Army training and work, reactions to personnel management policies that might be implemented to reduce the size of the force, and propensity to accept early release or retirement, as well as demographic items and personal data. This report focuses on gender and ethnic differences and their interactions in the areas of career intentions, opinions of Army work and training, and attitudes toward downsizing.

## Method

### ACSS Questionnaire

The ACSS questionnaire included subjects ranging from personal information, such as marital status and available financial resources, to attitudes toward various downsizing methods. Three forms of the questionnaire were administered: commissioned officers, enlisted soldiers, and warrant officers. All forms included both new items written specifically for the 1990 ACSS and questions drawn from previous surveys conducted by ARI, such as the New Recruit Survey (NRS) (Data Recognition Corporation, 1989), Recruit Experience Tracking Study (RETS) (Benedict, 1990), and Army Experience Survey (AES) (Westat, Inc., 1986). The items discussed in this report were common to all three forms.

### Survey Sample

Using a stratified random sampling approach, 30,000 soldiers (10,000 commissioned officers, 15,000 enlisted personnel, and 5,000 warrant officers) were surveyed by mail during June and July 1990. The main sample of 28,071 represented all soldiers on active duty as of March 31, 1990, with the exception of general officers, soldiers with less than one year of service, and soldiers in the process of separating or retiring. An additional sample of 1,929 soldiers who had participated in previous ARI surveys was also sent the ACSS questionnaire in order to assess changes in attitudes over time.

The results discussed in this report are based on 17,326 completed questionnaires received from 6,997 commissioned officers, 6,733 enlisted soldiers, and 3,596 warrant officers in

the main sample. However, sample sizes for analyses reported here vary somewhat, and are often smaller than the full sample, due to missing data. The data have been weighted to represent the total active duty Army, with the limitations noted above.

#### Response Rates and Accuracy

Fifty-eight percent of the main sample returned completed surveys. With adjustments for undelivered mail and late returns, the overall response rate is 65% (76% of commissioned officers, 51% of enlisted soldiers, and 80% of warrant officers). The overall margin of error is less than 1.3% for the total sample, and also acceptable for each of the three main groups and for the smaller subgroups. Table 1 shows the margins of error for the ethnic and gender subgroups discussed in this report.

Table 1  
Margins of Error for Subgroups

	Ethnic Group				Gender		All Soldiers
	Non-Hispanic				Men	Women	
	White	Black	Other	Hispanic			
Commissioned Officers	1.3	3.8	8.0	7.0	1.3	3.5	1.2
Enlisted Soldiers	1.8	2.5	6.2	5.7	1.5	4.0	1.4
Warrant Officers	1.6	4.6	8.2	7.2	1.5	2.9	1.5
Overall	1.4	2.4	5.7	5.2	1.3	3.4	1.2

#### Data Analyses

Items selected for inclusion in analyses of gender and ethnic effects are shown in Table 2, grouped into the broad areas of career opportunities and intentions, perceptions of Army work and training, and attitudes toward downsizing. These are conceptual, rather than statistical, groupings. Table 2 also includes the overall mean, standard deviation, and sample size for each item. For those items which included a "Not Applicable"

Table 2

## Items Included in Analysis

Short Name	Questionnaire Item	Scale	Mean	S.D.	N
<u>Career Opportunities and Intentions:</u>					
Stay 20 Yrs	I would stay in the Army for 20 or more years even if I could retire earlier.	5-point, 1=strongly disagree to 5=strongly agree	3.189	0.892	16194
Stay Beyond	It would take a lot to convince me to stay in the Army beyond my current obligation or enlistment.	5-point, 1=strongly disagree to 5=strongly agree	2.597	0.981	14567
Confident	I am confident I will be promoted as high as my ability and interest warrant if I stay in the Army.	5-point, 1=strongly disagree to 5=strongly agree	3.436	0.877	16278
Promoted	As the Army becomes smaller, how confident are you that you will be able to stay in the Army and be promoted on or ahead of schedule?	5-point, 1=very unsure to 5=extremely confident	2.643	0.775	16181
Service Interest	Do likely reductions in the size of the U.S. Army make you more or less interested in serving in the U.S. Army?	3-point, 1=less interested to 3=more interested	1.978	0.436	15505
<u>Perceptions of Army Work and Training:</u>					
Work I Enjoy	The kind of work I enjoy most is available...	5-point, 1=only in the civilian world to 5=only in the military	3.022	0.542	16274
Taught Skills	I have been taught valuable skills in the Army that I can use later in civilian jobs.	5-point, 1=strongly disagree to 5=strongly agree	3.713	0.767	16294

Table 2 continued

## Items included in Analysis

Short Name	Questionnaire Item	Scale	Mean	S.D.	N
Army KSAs	What effect, if any, have your Army experiences had on the development of specific job knowledge, skills, and abilities that will help you obtain a civilian job?	5-point, 1=strong negative effect to 5=strong positive effect	4.030	0.537	16303
Army Attitudes	What effect, if any, have your Army experiences had on the development of personal characteristics and attitudes that will help you obtain a civilian job?	5-point, 1=strong negative effect to 5=strong positive effect	4.183	0.509	16307
<u>Attitudes toward Downsizing:</u>					
Select/Retain	The current evaluation/selection system is effective in promoting the best soldiers.	5-point, 1=strongly disagree to 5=strongly agree	2.446	0.794	16284
Select/Downsize	The current evaluation/selection system would be effective in selecting those to be separated during down-sizing.	5-point, 1=strongly disagree to 5=strongly agree	2.865	0.738	16232
	As the Army becomes smaller, how confident are you that...	5-point, 1=very unsure to 5=extremely confident			
Officers Stay	...the best officers will stay?		2.502	0.728	16231
NCOs Stay	...the best NCOs will stay?		2.518	0.756	16247
Enlisted Stay	...the best junior enlisted soldiers will stay?		2.393	0.756	16234

Table 2 continued

## Items included in Analysis

Short Name	Questionnaire Item	Scale	Mean	S.D.	N
RIFed	How likely is it that you will be targeted to leave the Army involuntarily?	5-point, 1=extremely unlikely to 5=extremely likely	2.624	0.796	16029
Early Out	How likely is it that you will be offered an early out?	5-point, 1=extremely unlikely to 5=extremely likely	3.025	0.842	15942
Best Decisions	I believe that the Army leadership will make the best decisions to maintain a quality Army.	5-point, 1=strongly disagree to 5=strongly agree	3.215	0.726	16274
Protect Benefits	The Army will protect my benefits and retirement.	5-point, 1=strongly disagree to 5=strongly agree	2.759	0.716	16235



option, all respondents who indicated that the question did not apply to them were excluded from analyses.

Rather than examining each item independently, a multivariate analysis of variance (MANOVA) was initially conducted for each of the three groups of items shown in Table 2. MANOVAs allow us to determine whether there are significant overall effects of gender or ethnic group across a cluster of items taken as a whole. The MANOVA results are shown in Table 3. These analyses indicate significant differences among commissioned officers, enlisted soldiers, and warrant officers (the "Form" effect), as well as significant interactions between gender and ethnic group, for each of the three areas of interest here. In addition, they indicate significant effects of gender on perceptions of Army work and training, and of ethnic group on career opportunities/intentions and attitudes toward downsizing. However, with the significant gender-ethnic interactions, unambiguous interpretations of the overall effects of gender or ethnicity are difficult.

When significant interactions exist, it becomes necessary to "slice" the data into independent groups and examine the slices separately. Consequently, the initial MANOVAs were supplemented by conducting univariate analyses of variance (ANOVA), within each gender, to determine the effects of ethnic group membership. Results of these ANOVAs are shown in Tables 4 and 5. Post hoc comparisons of means were also conducted, using Tukey's Studentized Range (HSD) Test (SAS Institute Inc., 1985) for pairwise comparisons. Tukey's Test provides control of familywise error when conducting tests of all possible pairs of means (Keppel, 1982), and prevents the inflated Type I error rate which occurs when making multiple post hoc comparisons of this sort. Thus, significant differences between groups are less likely to be found by chance.

Item means for men and women in the four ethnic groups are shown in Table 6, and are illustrated in the figures throughout this report (items were scored so that higher scores would reflect greater endorsement of the item). It is best not to interpret the figures too literally, however; they are for illustrative purposes only. For example, two mean scores which look as if they ought to be significantly different in a figure (or in Table 6) sometimes are not. This is primarily because the figures simply show the average scores, while statistical tests also take into account the variability of the scores.

Note that the MANOVAs detected no interactions between form and gender or form and ethnic group. This suggests that whatever the differences among commissioned officers, enlisted personnel, and warrant officers, they tend to hold true across the different ethnic groups and across both men and women. Therefore, differences among the three groups of soldiers are not our main concern here, especially since they do not interact with either gender or ethnic group membership. Rather, the focus of this

Table 3  
MANOVA Results

Overall Effect	Wilks' Λ	Approx. F	df	p
<u>Career Opportunities and Intentions:</u>				
Form	.9941	8.07	10,27222	.0001
Sex	.9994	1.55	5,13611	.1706
Ethnic	.9974	2.35	15,37575	.0023
Sex x Form	.9992	1.07	10,27222	.3822
Ethnic x Form	.9980	0.90	30,54446	.6262
Sex x Ethnic	.9979	1.82	15,37575	.0265
<u>Perceptions of Army Work and Training:</u>				
Form	.9973	5.47	8,32368	.0001
Sex	.9994	2.39	4,16184	.0490
Ethnic	.9991	1.22	12,42819	.2498
Sex x Form	.9994	1.23	8,32368	.2783
Ethnic x Form	.9982	1.20	24,56460	.2276
Sex x Ethnic	.9974	3.56	12,42819	.0001
<u>Attitudes toward Downsizing:</u>				
Form	.9938	5.43	18,31206	.0001
Sex	.9996	0.65	9,15603	.7560
Ethnic	.9929	4.10	27,45569	.0001
Sex x Form	.9987	1.13	18,31206	.3099
Ethnic x Form	.9968	0.93	54,79565	.6133
Sex x Ethnic	.9974	1.50	27,45569	.0468

Table 4

## Univariate ANOVA Results for Ethnic Differences Among Men

Variable	F	df	p
<u>Career Opportunities and Intentions:</u>			
Stay 20 Yrs	38.74	3,14410	.0001
Stay Beyond	26.01	3,12902	.0001
Confident	86.34	3,14484	.0001
Promoted	80.93	3,14400	.0001
Service Interest	63.62	3,13810	.0001
<u>Perceptions of Army Work and Training:</u>			
Work I Enjoy	5.32	3,14484	.0012
Taught Skills	31.23	3,14499	.0001
Army KSAs	15.62	3,14507	.0001
Army Attitudes	28.64	3,14512	.0001
<u>Attitudes toward Downsizing:</u>			
Select/Retain	20.36	3,14496	.0001
Select/Downsize	16.49	3,14459	.0001
Officers Stay	134.97	3,14439	.0000
NCOs Stay	118.60	3,14455	.0001
Enlisted Stay	179.63	3,14443	.0000
RIFfed	37.25	3,14266	.0001
Early Out	12.05	3,14180	.0001
Best Decisions	77.48	3,14483	.0001
Protect Benefits	99.12	3,14454	.0001

Table 5

## Univariate ANOVA Results for Ethnic Differences Among Women

Variable	F	df	p
<u>Career Opportunities and Intentions:</u>			
Stay 20 Yrs	11.39	3,1776	.0001
Stay Beyond	2.09	3,1656	.0997
Confident	9.95	3,1786	.0001
Promoted	7.50	3,1773	.0001
Service Interest	7.85	3,1687	.0001
<u>Perceptions of Army Work and Training:</u>			
Work I Enjoy	0.78	3,1782	.5056
Taught Skills	2.08	3,1787	.1014
Army KSAs	2.72	3,1788	.0433
Army Attitudes	1.99	3,1787	.1140
<u>Attitudes toward Downsizing:</u>			
Select/Retain	2.51	3,1780	.0574
Select/Downsize	5.14	3,1765	.0015
Officers Stay	25.73	3,1784	.0001
NCOs Stay	19.57	3,1784	.0001
Enlisted Stay	33.29	3,1783	.0001
RIFfed	18.43	3,1755	.0001
Early Out	7.32	3,1754	.0001
Best Decisions	15.35	3,1783	.0001
Protect Benefits	12.45	3,1773	.0001

Table 6

## Item Means for Men and Women in the Four Ethnic Groups

	White Non-Hispanic		Black Non-Hispanic		Other Non-Hispanic		Hispanic	
	M	F	M	F	M	F	M	F
<u>Career Opportunities and Intentions:</u>								
Stay 20 Yrs	3.40	2.83 <sup>b</sup>	3.74	3.16 <sup>b</sup>	3.50	3.19	3.81	3.55
Stay Beyond	2.34	2.63 <sup>b</sup>	2.07	2.51 <sup>b</sup>	2.44	2.73	2.17	2.25
Confident	3.33	3.29	3.71	3.56 <sup>b</sup>	3.72	3.64	3.84	3.95
Promoted	2.55	2.49	2.95	2.73 <sup>b</sup>	2.82	2.72	2.87	2.88
Service Interest <sup>a</sup>	1.88	1.86	2.08	2.01 <sup>b</sup>	1.97	2.03	2.05	1.97
<u>Perceptions of Army Work and Training:</u>								
Work I Enjoy	3.23	3.02 <sup>b</sup>	3.16	3.02 <sup>b</sup>	3.21	2.92 <sup>b</sup>	3.23	3.11
Taught Skills	3.84	3.97 <sup>b</sup>	4.06	4.08	3.83	3.95	4.01	4.17
Army KSAs	4.14	4.21 <sup>b</sup>	4.26	4.16 <sup>b</sup>	4.14	4.08	4.21	4.39
Army Attitudes	4.22	4.21	4.36	4.15 <sup>b</sup>	4.24	4.22	4.34	4.38
<u>Attitudes toward Downsizing:</u>								
Select/Retain	2.64	2.43 <sup>b</sup>	2.78	2.49 <sup>b</sup>	2.82	2.67	2.95	2.77
Select/Downsize	2.84	2.66 <sup>b</sup>	2.96	2.78 <sup>b</sup>	3.02	2.81	3.06	3.17
Officers Stay	2.33	2.14 <sup>b</sup>	2.77	2.59 <sup>b</sup>	2.65	2.61	2.74	2.64
NCOs Stay	2.40	2.19 <sup>b</sup>	2.81	2.59 <sup>b</sup>	2.79	2.56	2.81	2.68
Enlisted Stay	2.20	2.03 <sup>b</sup>	2.70	2.58 <sup>b</sup>	2.61	2.30	2.71	2.55
Riffed	2.49	2.44	2.75	2.91 <sup>b</sup>	2.69	2.73	2.71	2.73
Early Out	2.70	2.81 <sup>b</sup>	2.86	3.13 <sup>b</sup>	2.87	3.08	2.80	2.80
Best Decisions	3.22	2.96 <sup>b</sup>	3.55	3.30 <sup>b</sup>	3.50	3.23	3.57	3.48
Protect Benefits	2.63	2.42 <sup>b</sup>	3.01	2.71 <sup>b</sup>	2.93	2.81	3.03	2.82

<sup>a</sup>Scored on three-point scale. <sup>b</sup>Men's and women's means (within the same ethnic group) are significantly different at  $p < .05$ .

report is on gender and ethnic effects and on the interactions between them.

## Results and Discussion

### Career Opportunities and Intentions

Gender effects. In general, women appear to have less interest than men in making a life-long career of the Army. Figures 1 and 2 show the mean scores of men and women in the four ethnic groups for the items asking if they would like to stay in the Army for twenty or more years, and if it would be difficult to persuade them to stay beyond their current obligations. In both cases, women in all ethnic groups express less interest in a long-term Army career than their male counterparts. Differences between men and women are statistically significant only for the White and Black Non-Hispanic groups, but the consistency of the patterns suggests that men are more likely to be interested in the Army as a career.

On the other hand, with the exception of Black soldiers, men and women do not differ in their confidence of promotion opportunities if they remain in the Army, nor in their interest in serving in a reduced force. Items in the ACSS questionnaire addressed these issues by asking for (1) confidence ratings for promotion if the individual remained in the Army (Figure 3), (2) confidence ratings for promotion on schedule in a smaller Army (Figure 4), and (3) ratings of interest in serving, given likely reductions in the size of the Army (Figure 5). In all three cases, non-Black men and women were equally confident and interested. Although Black women's mean scores for these three items are significantly lower than Black men's, differences between men's and women's responses are not significant in the other three ethnic groups.

Ethnic effects. Figures 1 and 2 also suggest that Black and Hispanic soldiers are more interested in an Army career than other soldiers. Among male soldiers, the mean scores for both Black and Hispanic soldiers are significantly higher than those for White or non-Black minority soldiers on both items. Among women, however, these differences are significant only for the item concerning staying in the Army for twenty or more years. Note also that the univariate ANOVA (Table 5) for the item on being convinced to stay in the Army beyond the current obligation indicates no significant ethnic effect among women.

Overall, minority soldiers seem more confident than white soldiers of their promotion opportunities if they stay in the Army. Note in Figures 3 and 4 that mean scores for minority soldiers are consistently higher for confidence that they will be promoted as high as ability and interest warrant and that promotions will be on or ahead of schedule, even in a reduced force. Among men, Black, Hispanic, and non-Black minority scores are all significantly higher than the White score; among women,

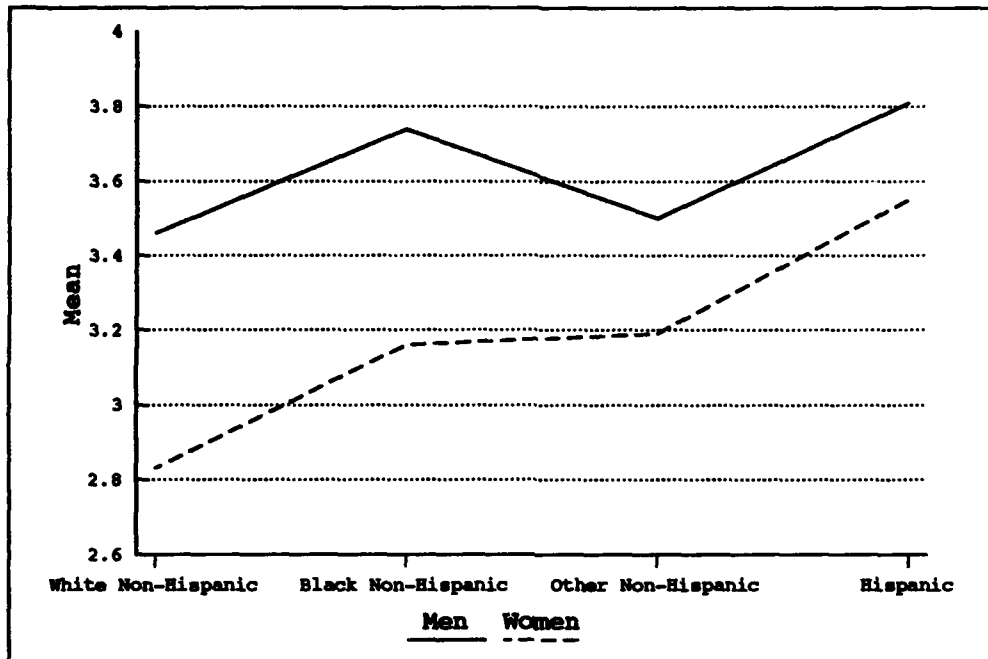


Figure 1. Mean responses to "I would stay in the Army for 20 or more years even if I could retire earlier."

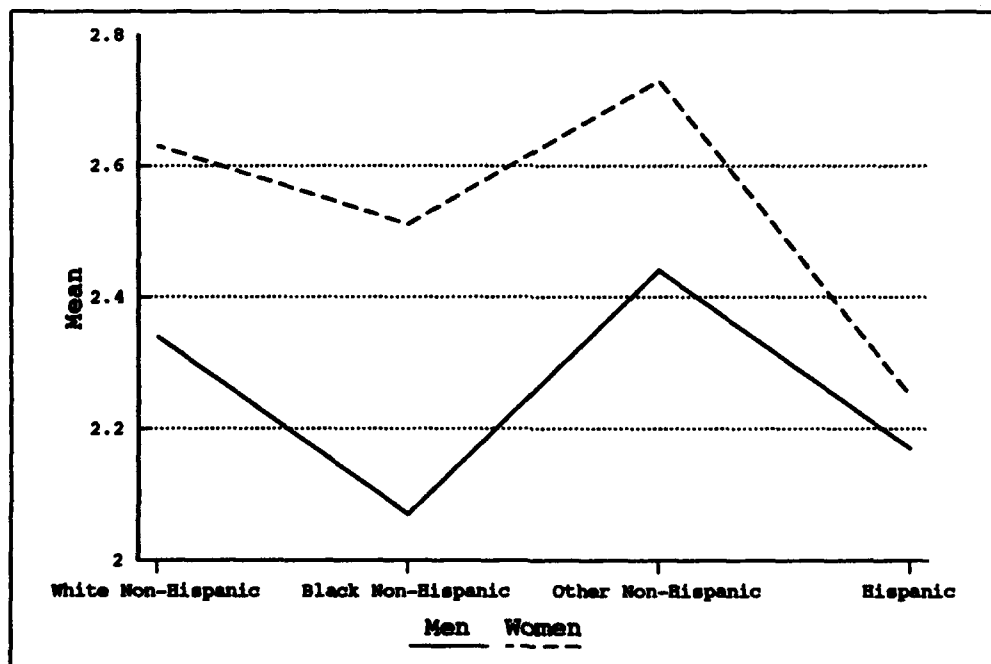


Figure 2. Mean responses to "It would take a lot to convince me to stay in the Army beyond my current obligation or enlistment."

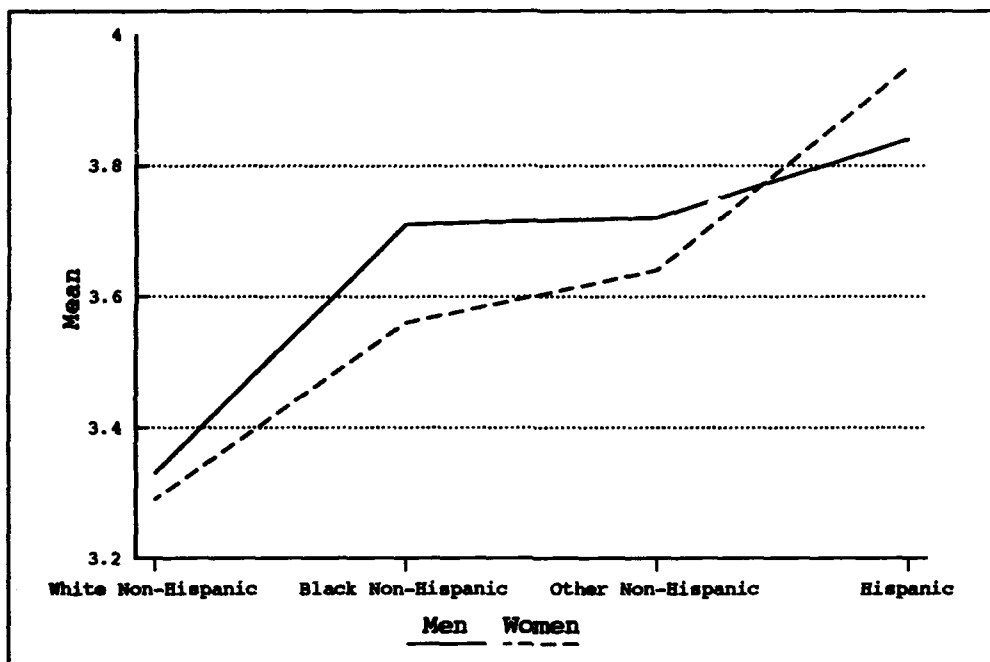


Figure 3. Mean responses to "I am confident I will be promoted as high as my ability and interest warrant if I stay in the Army."

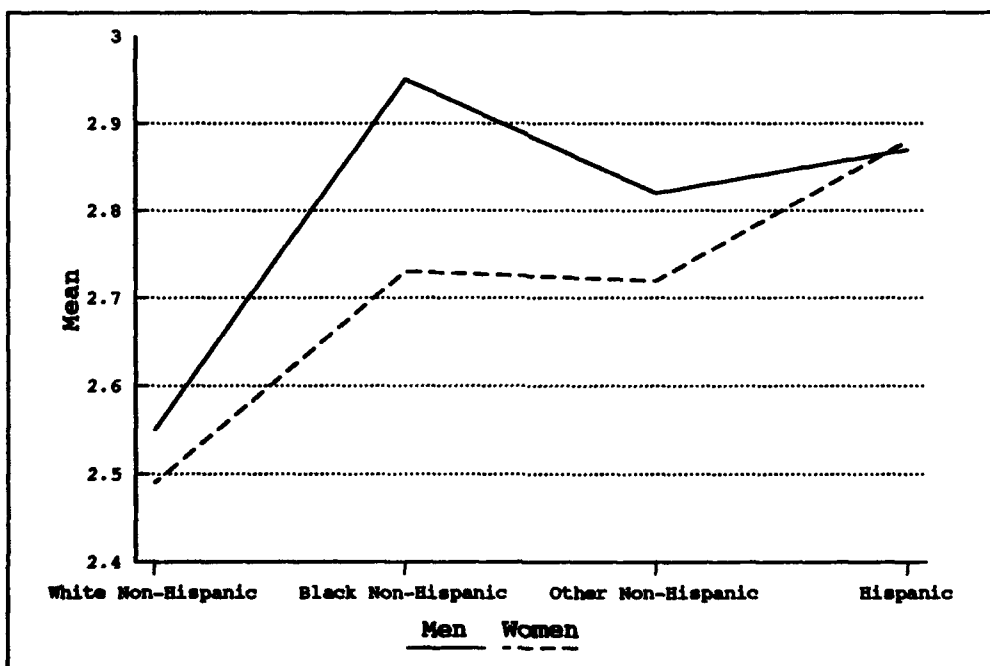


Figure 4. Mean responses to "As the Army becomes smaller, how confident are you that you will be able to stay in the Army and be promoted on or ahead of schedule?"



the Black and Hispanic scores are significantly higher, but the non-Black minority score is not.

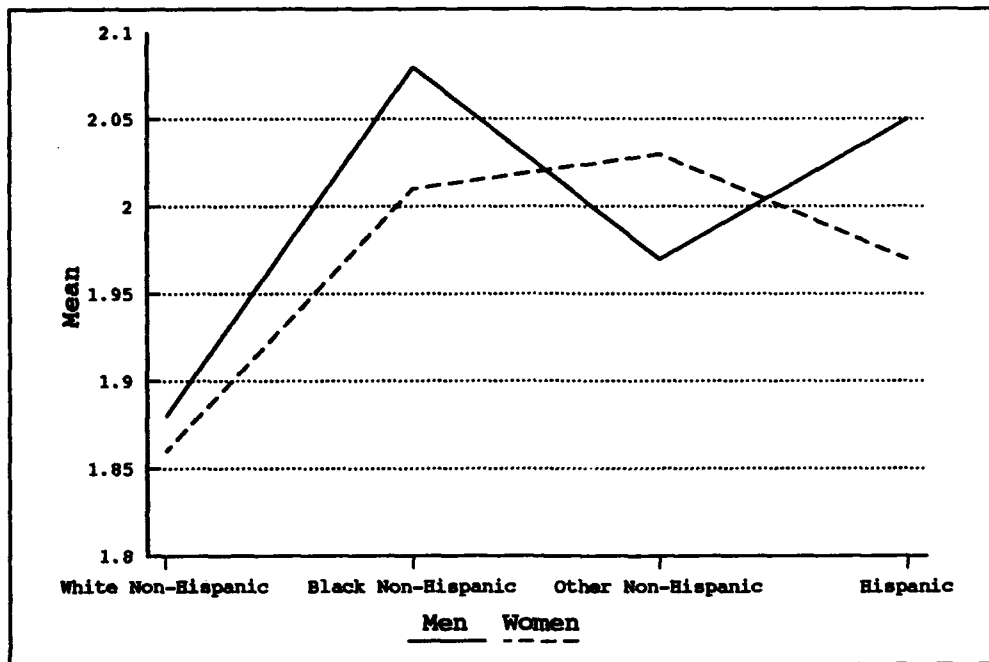


Figure 5. Mean responses to "Do likely reductions in the size of the U.S. Army make you more or less interested in serving in the U.S. Army?"

Figure 5 suggests that the three minority groups are also more interested in serving in a downsized Army than the White group. While these differences are all significant for men, only the Black mean is significantly higher than the White mean for women. Note in Table 6, however, that the mean scores for all minority women are higher than the mean for White women, just as they are among men.

#### Perceptions of Army Work and Training

Gender effects. Much as they express less interest in an Army career, women are also less likely to indicate that the kind of work they most enjoy is found primarily in the military (see Figure 6). Only Hispanic men and women do not differ on this item.

In contrast, White women are more likely than White men to believe that they have been taught valuable skills in the military which will be useful in later civilian jobs (see Figure 7). One possible explanation for a male-female difference on

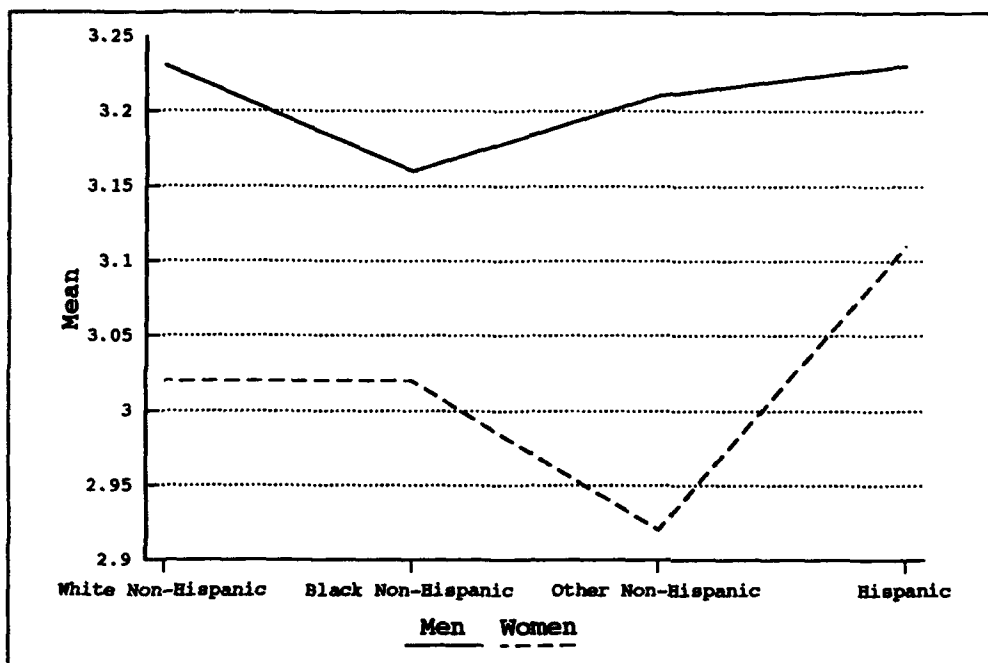


Figure 6. Mean responses to "The kind of work I enjoy most is available only in the military."

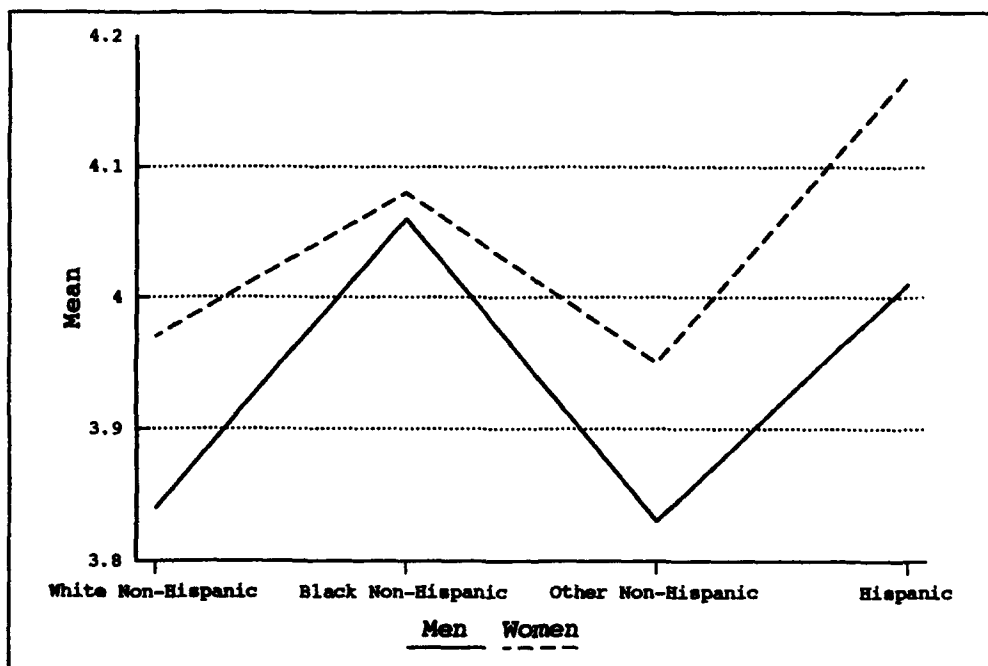


Figure 7. Mean responses to "I have been taught valuable skills in the Army that I can use later in civilian jobs."

this item might be that no women are in the combat specialties, where the skills learned are less likely to be perceived as being applicable to civilian jobs. However, the fact that this gender difference does not hold for the other three ethnic groups implies that this explanation may be insufficient. Still, although three of the four gender differences are non-significant, the overall pattern of responses in Figure 7 suggests that women have a greater perception of the relevance of Army skills to civilian jobs.

Two items in the ACSS addressed the extent to which the Army experience was viewed as developing specific job knowledge, skills, and abilities (KSAs), or personal characteristics and attitudes, which would be useful in obtaining a civilian job. These two items are illustrated in Figures 8 and 9, which show rather mixed results. White women are more likely than White men to believe that specific KSAs gained in the Army will be useful in obtaining civilian jobs. However, Black women are less likely than Black men to express this belief, or to say that the personal characteristics acquired through their Army experience will be helpful in locating civilian work. Gender differences in the other two ethnic groups are not significant for either item, nor is the male-female difference among White soldiers significant for the item on personal characteristics and attitudes.

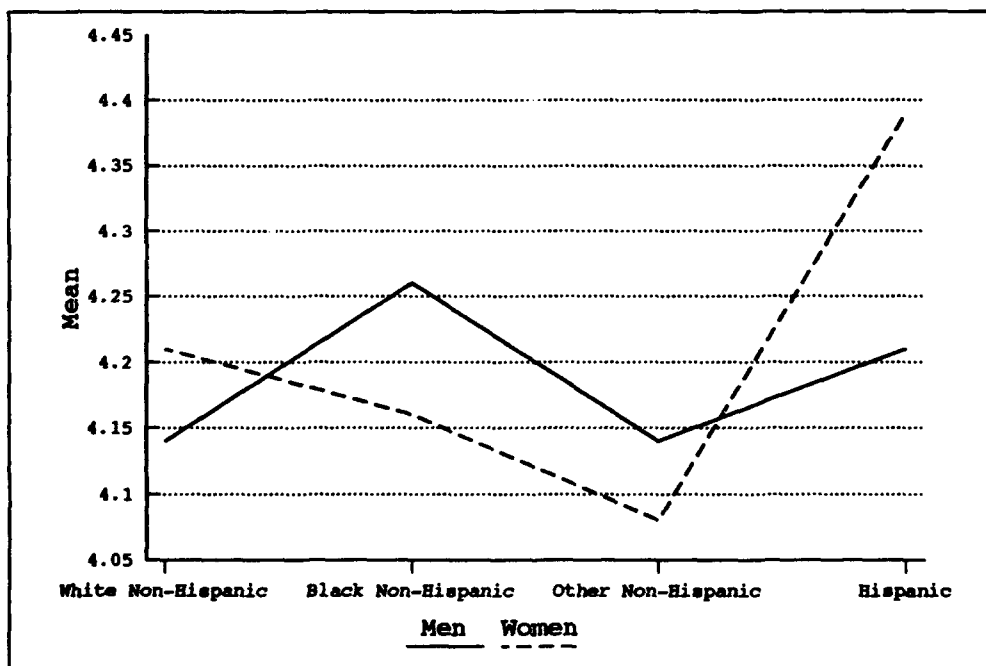


Figure 8. Mean responses to "What effect, if any, have your Army experiences had on the development of specific job knowledge, skills, and abilities that will help you obtain a civilian job?"

Because it is possible that some of these results do reflect the absence of women in the combat specialties, further analyses were conducted in which respondents were limited to those serving in the Military Occupational Specialties (MOS) which are open to women. That is, soldiers serving in combat MOSs which are closed to women were excluded from the additional analyses of these four items. This does, of course, mean a smaller sample (sizes vary from 212 to 2610), as well as a sample limited to enlisted soldiers, but it should give somewhat clearer results because the men and women are serving in comparable job specialties with comparable duties and skills.

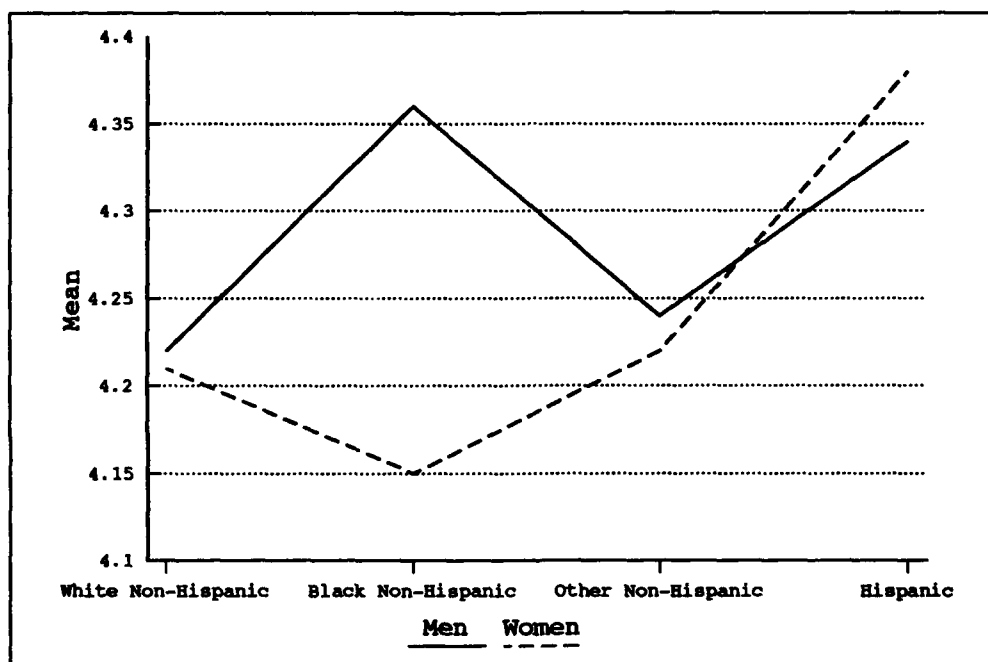


Figure 9. Mean responses to "What effect, if any, have your Army experiences had on the development of personal characteristics and attitudes that will help you obtain a civilian job?"

These further analyses indicate three changes in the results (cf. Table 6). First, Black men and women no longer differ on the item concerning whether the type of work they enjoy is found in the military or civilian sectors. Second, White men and women no longer differ in the extent to which they believe they have acquired specific KSAs useful in obtaining civilian work. Third, there is no longer a significant difference between White men's and women's beliefs that they have been taught valuable skills in the Army which will be useful later in civilian jobs.

The latter finding supports the notion that gender differences may partially reflect differences in the type of MOS in which men and women serve. That is, across all four ethnic groups, men and women serving in comparable MOSs do not differ in their beliefs that the Army job skills they have been taught will be useful in their later civilian work. In addition, only Black women are less likely than their male counterparts to believe that specific KSAs and personal attitudes or characteristics gained through Army service will be helpful in obtaining civilian jobs. This gender difference is not found among the other three ethnic groups. As a whole, then, these findings suggest that there are only a few gender differences in soldiers' perceptions of Army work and training.

Ethnic effects. Although White men are more likely than Black to indicate that the kind of work they most enjoy is found primarily in the military, no other ethnic group differences are indicated for this item. On the other hand, both Black and Hispanic men are more likely than Whites or other minorities to say that the skills they have acquired in the Army will be useful in later civilian work.

With regard to specific KSAs or personal characteristics, Black men are also more likely than White or non-Hispanic minority men to agree that these attributes will be helpful in locating civilian work. Overall, then, there do appear to be significant ethnic differences among men's perceptions of Army work and training. These differences are generally in the direction of minority soldiers perceiving that skills and characteristics gained from their Army experience have greater applicability to civilian life.

Just as women are rarely in the combat MOSs, Black men are less likely than White to be in the combat arms branches and MOSs of the Army. Thus, the ethnic differences described above may reflect differences in the kinds of skills learned in the Army. Job competencies which are relevant to combat specialties are probably also seen as having fewer applications in the civilian world. Because of this possibility, an additional analysis of covariance (ANCOVA) was conducted to allow the type of MOS or branch (Combat Arms, Combat Support, Combat Services Support, Other) to be taken into account while examining ethnic differences among men. ANCOVA results, however, indicate that ethnic differences exist among men, even beyond any effects of the type of branch or MOS in which they serve (all Fs for ethnic effect, adjusted for effect of MOS/branch type, are significant at  $p < .05$ ). Thus, it appears that minorities may well perceive Army work and training as having greater relevance to civilian work.

Interestingly, there are no significant ethnic differences among women for this set of items. Despite the significant univariate ANOVA for Army KSAs (see Table 5), tests of differences between means are all non-significant. Because the

various techniques for handling multiple comparisons vary somewhat in the type of error they control, as well as in their sensitivity in detecting significant differences (Glass & Stanley, 1970; Keppel, 1982; SAS Institute Inc., 1985), additional approaches to multiple comparisons were used for this item. These included the Scheffe and Bonferroni tests, in addition to the Tukey test. None of these methods indicated any significant ethnic differences among pairs of mean scores for women.

The apparent contradiction between ANOVA and paired comparison results is a good illustration of what can happen when one starts "milking" the data. By making multiple passes (in the form of eighteen ANOVAs) through the same set of data for women, the chances of finding at least one significant  $F$ -value purely by chance are increased, just as they are when making multiple comparisons. If we apply the Bonferroni correction (Godfrey, 1986) to the multiple ANOVAs, dividing the usual  $\alpha$  level of .05 by the number of statistical tests, we find that  $.05/18 = .0028$ . This is the  $p$  level that any individual  $F$  for an ANOVA should reach if we are to be sure that the differences detected are real, not merely chance. Using this criterion, the  $F$  for the Army KSAs ANOVA would be considered non-significant. Because the multiple comparison techniques apply a more stringent standard of significance than a free-standing ANOVA, their results are probably more reliable. Therefore, it seems safe to conclude that these data do not provide any evidence of ethnic differences among women's perceptions of Army work and training.

#### Attitudes Toward Downsizing

Gender effects. Note in Table 6 the obvious pattern of gender differences among White and Black soldiers. Women consistently express less confidence than men in the effectiveness of the current selection system, the retention of the best soldiers in a smaller Army, the ability of Army leadership to make the best decisions to maintain a quality force, and the ability of the Army to protect their benefits. They are also more convinced than men that they will be offered an early out option. In addition, Black women believe more strongly than Black men that they will be targeted for involuntary separation, but this gender difference is not significant for White soldiers.

Although no gender differences are indicated among the Hispanic and other (non-Black) minority soldiers, Table 6 shows that the direction of the differences between men's and women's mean scores is comparable to that found among White and Black soldiers. These differences simply are not statistically significant. Thus, the overall configuration of male-female differences is relatively consistent across the four ethnic groups and across the nine survey items.

This pattern of gender differences is also clearly illustrated in Figures 10 through 18, which show this disparity between men's and women's responses. Given the overall uniformity of these results, we can only conclude that women are generally less optimistic than men about the methods and results of downsizing the Army.

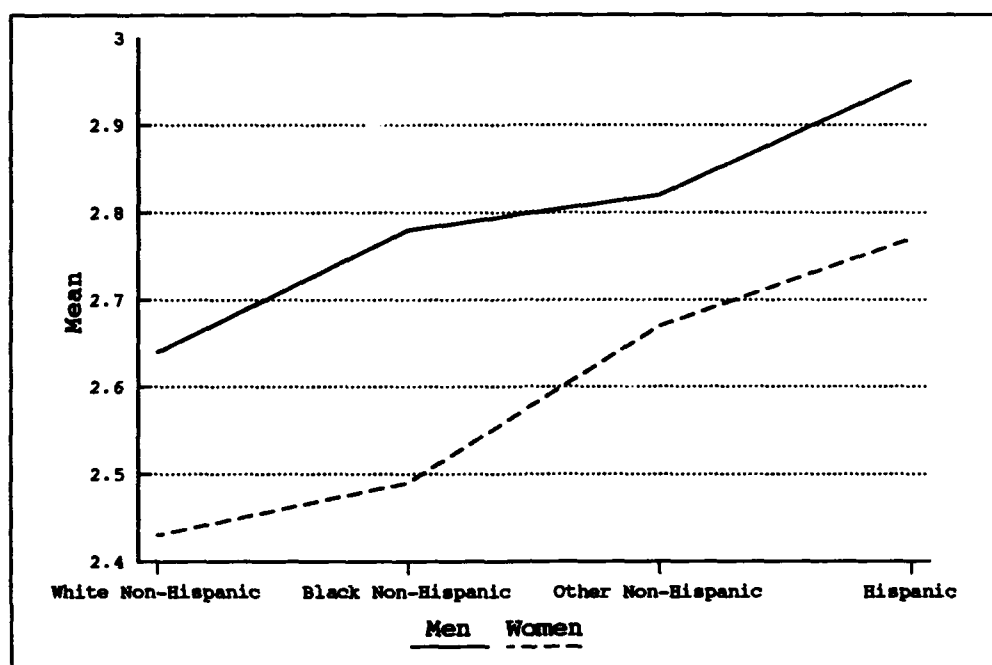


Figure 10. Mean responses to "The current evaluation/selection system is effective in promoting the best soldiers."

Ethnic effects. Much like gender differences, clear patterns of ethnic differences appear among male soldiers, although the patterns are less consistent among female soldiers. These patterns are somewhat different from the gender differences, however, in that minority men express more confidence than White men in the effectiveness of the selection system, the retention of the best personnel, the best decisions to maintain a quality force, and the likelihood that their benefits will be protected. However, they also think it is more likely that they will be targeted for involuntary separation or, with the exception of Hispanics, offered an early out than White men. We note also that there are almost no significant differences among the minority men themselves. The sole exception is that Hispanic men agree more than Black men that the current selection system is effective in promoting the best soldiers.

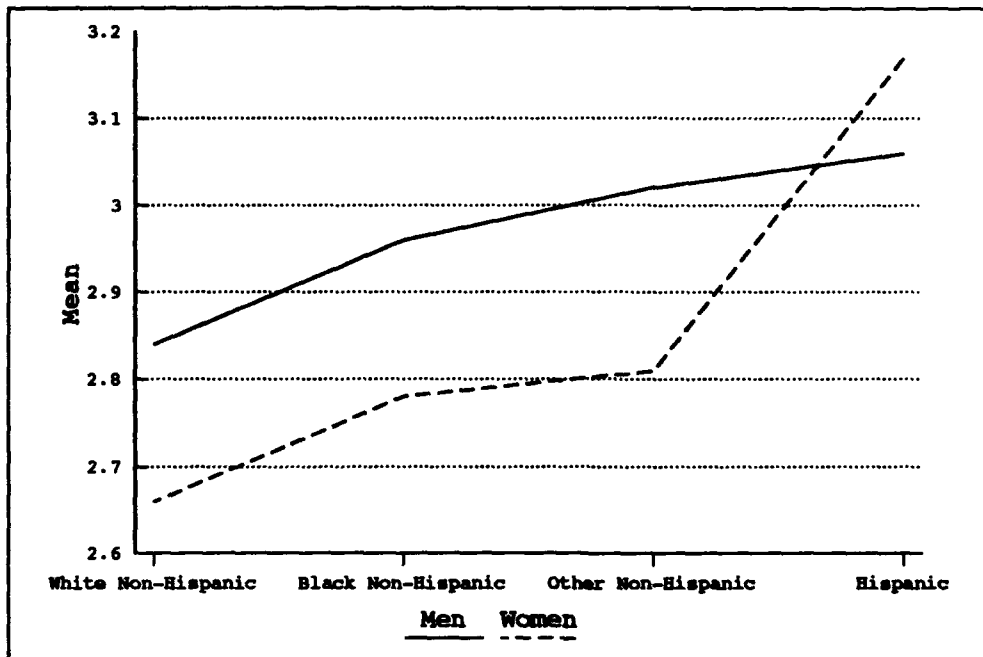


Figure 11. Mean responses to "The current evaluation/selection system would be effective in selecting those to be separated during downsizing."

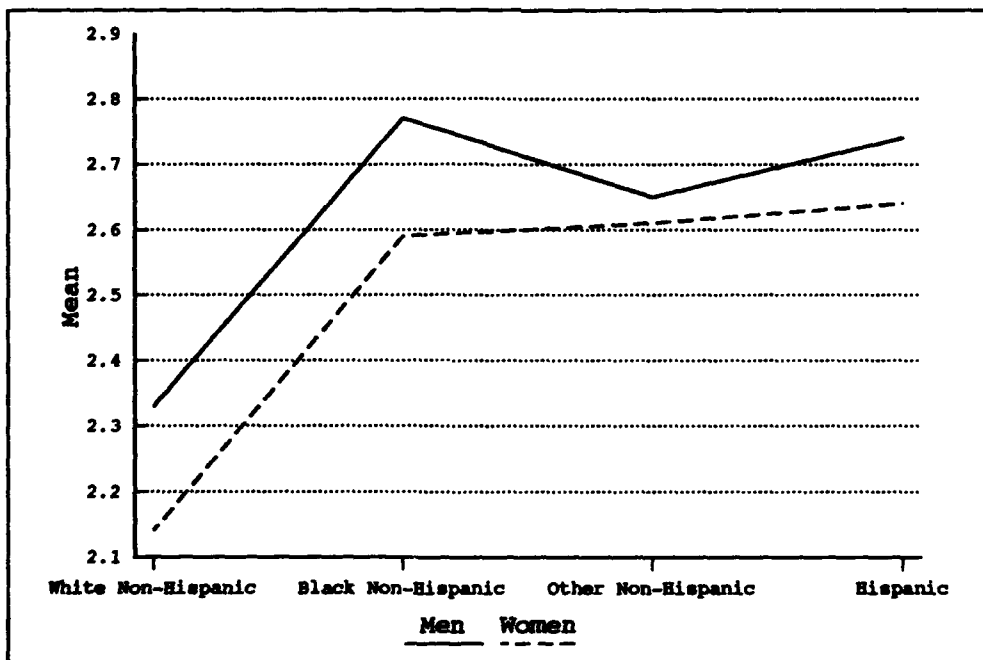


Figure 12. Mean responses to "As the Army becomes smaller, how confident are you that the best officers will stay?"



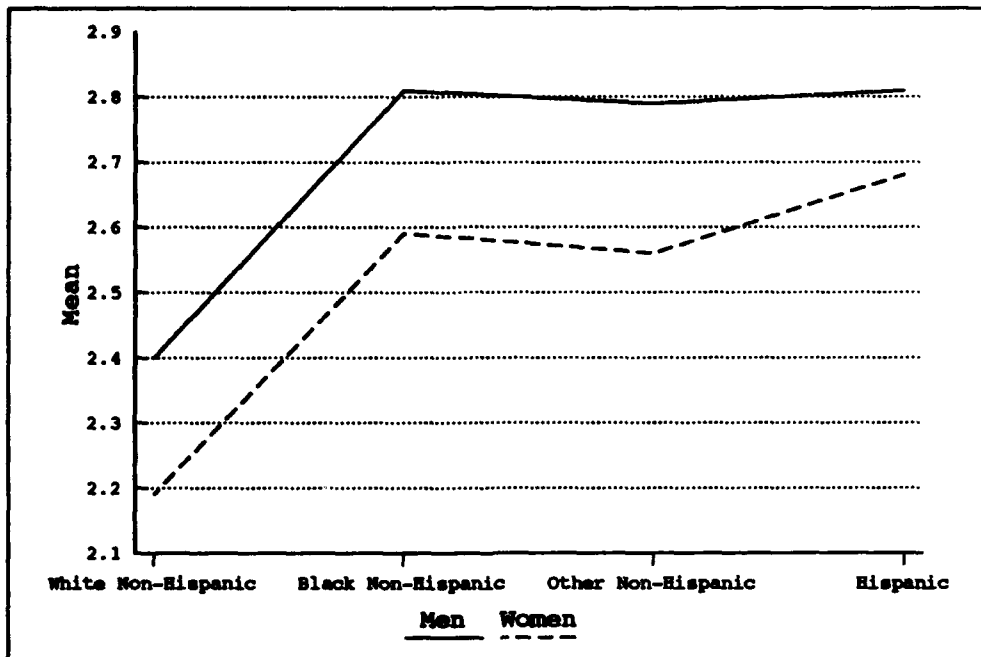


Figure 13. Mean responses to "As the Army becomes smaller, how confident are you that the best NCOs will stay?"

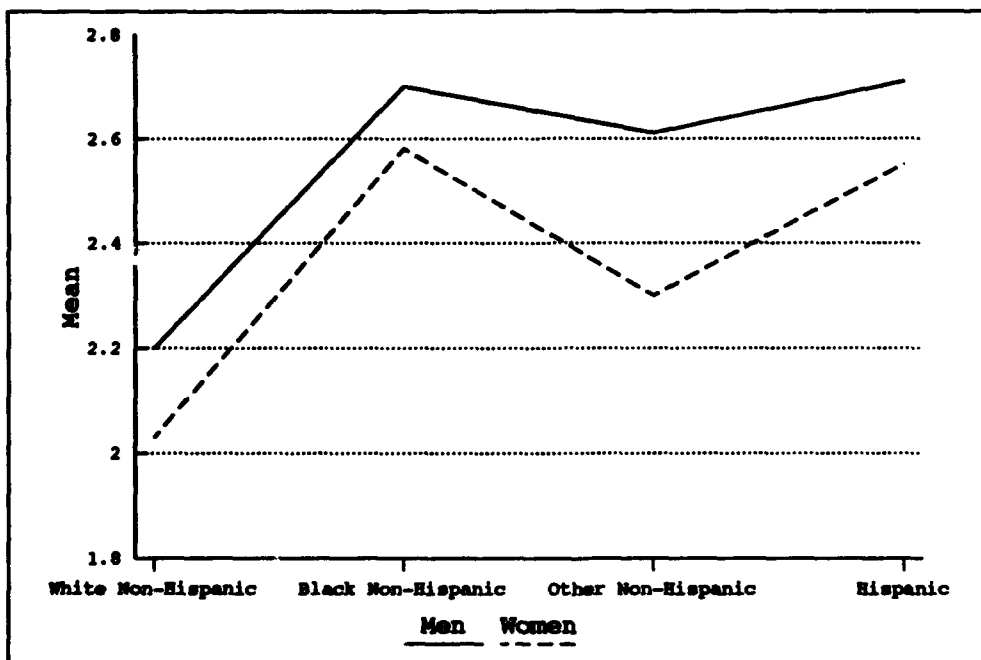


Figure 14. Mean responses to "As the Army becomes smaller, how confident are you that the best junior enlisted soldiers will stay?"

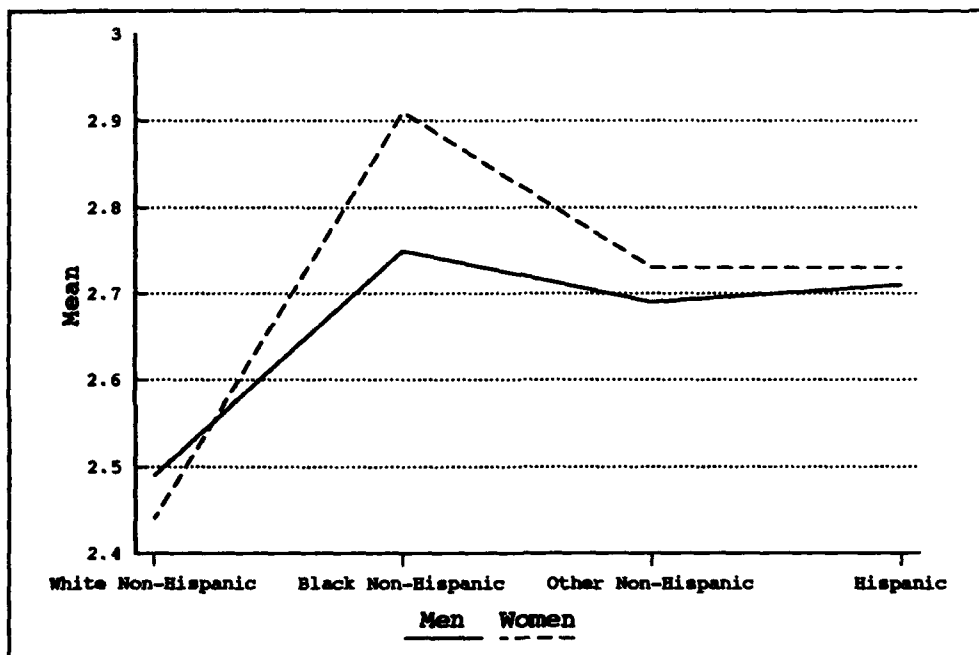


Figure 15. Mean responses to "How likely is it that you will be targeted to leave the Army involuntarily?"

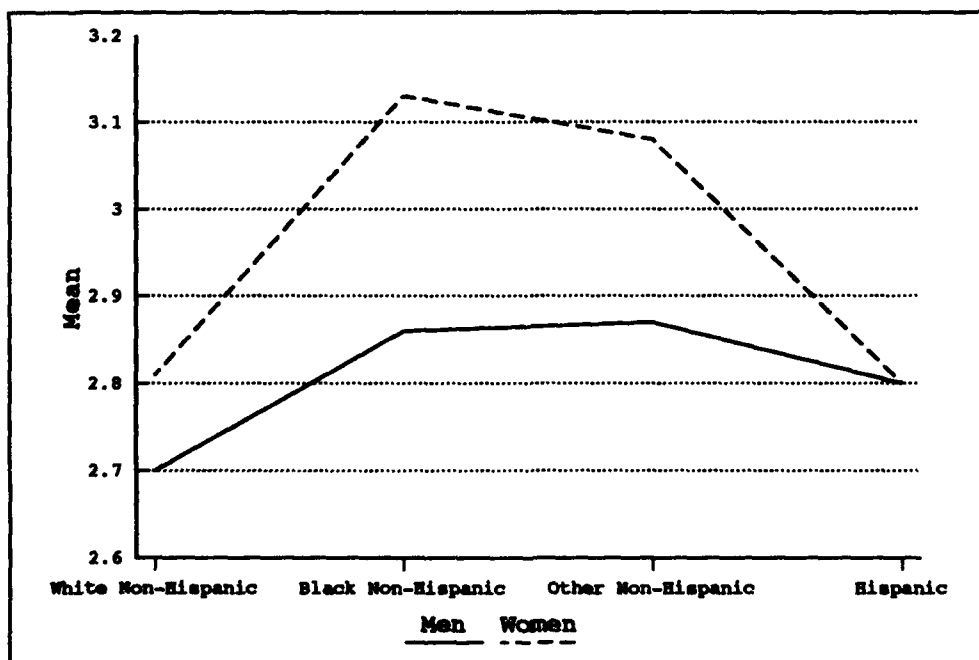


Figure 16. Mean responses to "How likely is it that you will be offered an early out?"

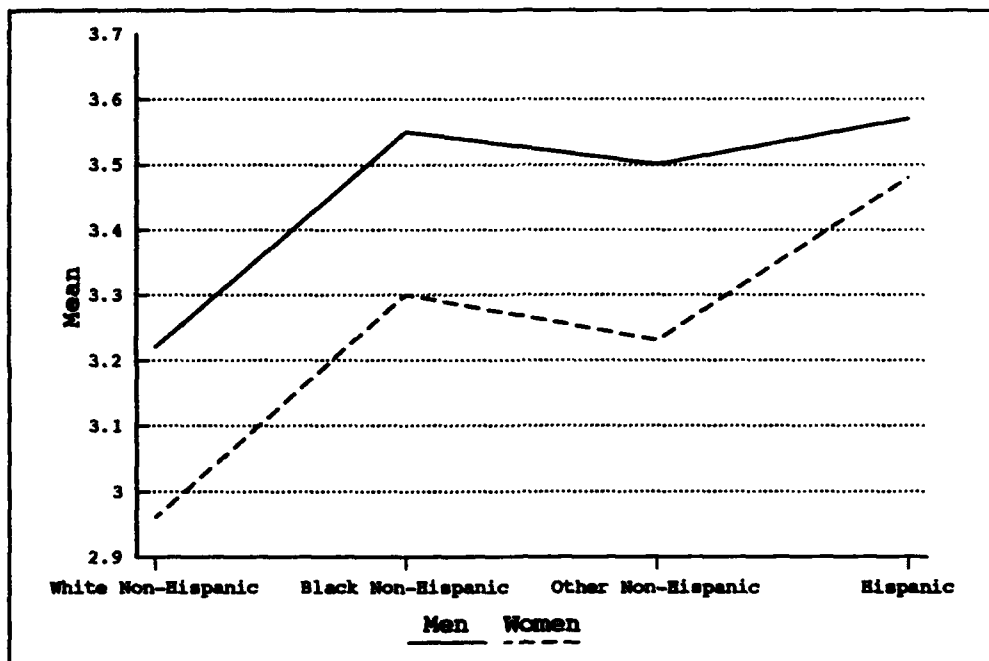


Figure 17. Mean responses to "I believe that the Army leadership will make the best decisions to maintain a quality Army."

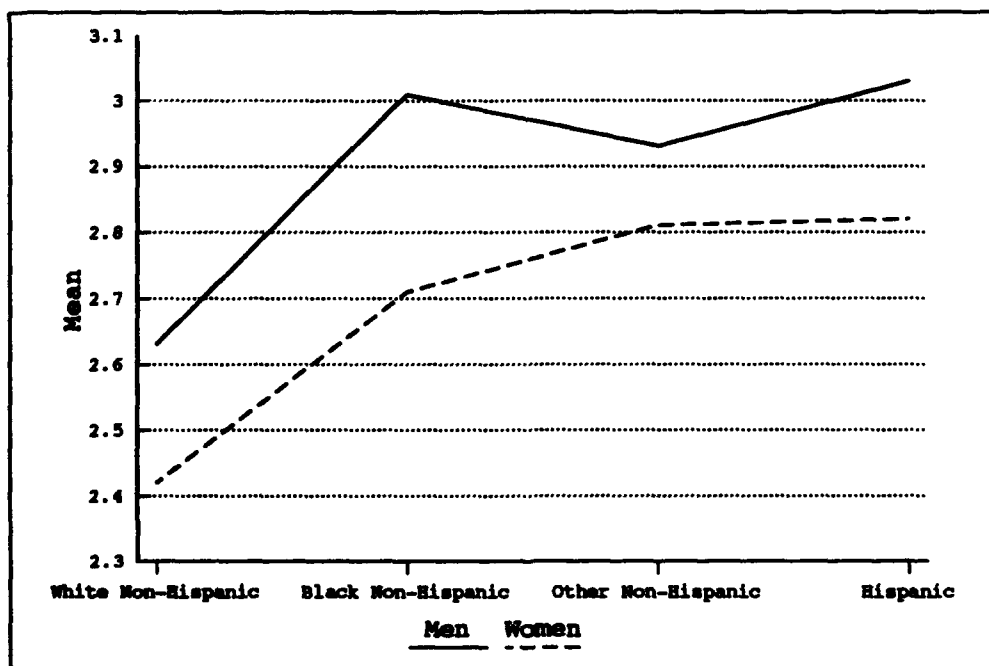


Figure 18. Mean responses to "The Army will protect my benefits and retirement."

Among female soldiers, the ethnic differences in this group of items are less consistent, but still very similar to the men's. There are few ethnic differences in women's confidence in the selection system, with the exception that Hispanic women are more confident than Black and White women that the system would work well in selecting soldiers to be separated in downsizing. Generally, minority women are more confident than White women that the best soldiers will be retained in a smaller Army, that the best decisions will be made, and that their benefits will be protected. Much like the pattern found among men, Black women also express greater belief than White in the likelihood that they will be involuntarily separated or offered an early out. Again, there are very few differences among the minority women themselves; the only exception is that Hispanic women are more confident than Black that the selection system would be effective in selecting soldiers to be separated during downsizing.

These results do not contradict those found among men. Rather, they are simply less consistent across the series of items--that is, there are fewer statistically significant differences between mean scores. As shown in Figures 10 through 18, however, the responses of women in the four ethnic groups to these items are very similar to the men's. Where minority men express more confidence than White men in the methods and results of downsizing, so also do minority women express more confidence than White women. Where minority men indicate a greater belief in the likelihood that they will be targeted for separation during downsizing, so also do minority women.

As with the gender effects discussed above, the directions of differences between the mean scores of the ethnic groups are comparable to those found in men, even where those differences are not statistically significant. The non-significant differences are also comparable (in direction) to those which are significant, and the patterns are relatively consistent across the nine items. Given this overall uniformity of results, we would tend to conclude that minority soldiers, men and women alike, are both more and less optimistic than White soldiers about downsizing. They are more optimistic about the system working to maintain a high-quality force, but less optimistic about their chances of staying in the Army during downsizing.

#### Summary Tables

All ethnic differences discussed above are summarized in Tables 7 and 8. These tables show the significant ethnic group differences, including the direction, for men (Table 7) and for women (Table 8).

#### Summary

The analyses reported here are obviously somewhat exploratory in nature. That is, they were not guided by any a priori assumptions about the kinds of results which we might

Table 7

## Significant Ethnic Group Differences Among Men

Non-Hispanic					
	White vs. Black	White vs. Other	Black vs. Other	White vs. Hispanic	Black vs. Hispanic
Other vs. Hispanic					
<u>Career Opportunities and Intentions:</u>					
Stay 20 Yrs	Black > White	ns	Black > Other	Hispanic > White	ns
Stay Beyond	White > Black	ns	Other > Black	White > Hispanic	ns
Confident	Black > White	Other > White	ns	Hispanic > White	ns
Promoted	Black > White	Other > White	ns	Hispanic > White	ns
Service Interest	Black > White	Other > White	Black > Other	Hispanic > White	ns
<u>Perceptions of Army Work and Training:</u>					
Work I Enjoy	White > Black	ns	ns	ns	ns
Taught Skills	Black > White	ns	Black > Other	Hispanic > White	Hispanic > Other
Army KSA's	Black > White	ns	Black > Other	ns	ns
Army Attitudes	Black > White	ns	Black > Other	Hispanic > White	ns
<u>Attitudes toward Downsizing:</u>					
Select/Retain	Black > White	Other > White	ns	Hispanic > Black	ns
Select/Downsize	Black > White	Other > White	ns	ns	ns
Officers Stay	Black > White	Other > White	ns	ns	ns
NCOs Stay	Black > White	Other > White	ns	ns	ns
Enlisted Stay	Black > White	Other > White	ns	ns	ns
RUFED	Black > White	Other > White	ns	ns	ns
Early Out	Black > White	Other > White	ns	ns	ns
Best Decisions	Black > White	Other > White	ns	ns	ns
Protect Benefits	Black > White	Other > White	ns	ns	ns

Note: Differences shown above are significant at  $\alpha=.05$ , using Tukey's Studentized Range (HSD) Test for pairwise comparisons.

Table 8

## Significant Ethnic Group Differences Among Women

Non-Hispanic					
	White vs. Black	White vs. Other	Black vs. Other	White vs. Hispanic	Black vs. Hispanic
<u>Career Opportunities and Intentions:</u>					
Stay 20 Yrs	Black > White	ns	ns	Hispanic > White	ns
Stay Beyond	ns	ns	ns	ns	ns
Confident	Black > White	ns	ns	Hispanic > White	ns
Promoted	Black > White	ns	ns	Hispanic > White	ns
Service Interest	Black > White	ns	ns	ns	ns
<u>Perceptions of Army Work and Trainings:</u>					
Work I Enjoy	ns	ns	ns	ns	ns
Taught Skills	ns	ns	ns	ns	ns
Army KSA's	ns	ns	ns	ns	ns
Army Attitudes	ns	ns	ns	ns	ns
<u>Attitudes toward Downsizing:</u>					
Select/Retain	ns	ns	ns	ns	ns
Select/Downsize	ns	ns	ns	Hispanic > Black	ns
Officers Stay	Black > White	Other > White	ns	ns	ns
NCOs Stay	Black > White	Other > White	ns	ns	ns
Enlisted Stay	Black > White	ns	ns	ns	ns
RUFED	Black > White	ns	ns	ns	ns
Early Out	Black > White	ns	ns	ns	ns
Best Decisions	Black > White	ns	ns	Hispanic > White	ns
Protect Benefits	Black > White	Other > White	ns	Hispanic > White	ns

Note: Differences shown above are significant at  $\alpha=.05$ , using Tukey's Studentized Range (HSD) Test for pairwise comparisons.

expect to find, or by any particular hypotheses to be tested. The specific ACSS items selected for analyses of gender and ethnic effects are plainly only a subset of all possible items. Different results might be obtained with a different subset of items; and, of course, different MANOVA results might well be found with different groupings of items into broad conceptual areas. However, the relatively constant patterns of significant ethnic differences for each area within gender (see Tables 7 and 8) suggests that these conceptual groupings are not unreasonable, as does the consistency of results across men and women in the area of Attitudes toward Downsizing. The exception may be in the area of Career Opportunities and Intentions. Even here, however, note that where ethnic differences exist, they are similar in nature, with minority soldiers generally expressing greater interest and confidence than White soldiers.

It is worth noting that we do not know if these patterns of ethnic differences represent different perceptions of the Army and/or the civilian world, different experiences during military service, or different ways of responding to survey questionnaires. That is, we cannot be sure whether these differences reflect truly different attitudes and opinions, or simply indicate different response tendencies. It is possible that some individuals are more likely than others to agree (or disagree) with statements presented in a questionnaire. Indeed, if this were so, we might expect to find the kind of patterns shown in the ACSS items analyzed in this report. Across all items, where ethnic differences exist they are almost always in the direction of higher mean scores for minority soldiers. Women, on the other hand, generally have lower item means than men. Either pattern could well result from different response tendencies, rather than different attitudes.

Overall, both male and female minority soldiers appear to have more interest in an Army career and more confidence about their opportunities for advancement than do White soldiers. Among men, minorities also seem to believe that the knowledge, skills, and attitudes acquired through their Army service have greater relevance to civilian work. The data do not support this ethnic difference among women, however. Across all ethnic groups, women express less interest than men in making a career of Army service. However, with the exception of Black soldiers, women are just as confident as men that they would have advancement opportunities in the Army, despite their lower level of interest in a military career. This may not hold true for Black women, who seem less confident about promotions than their male counterparts.

There appear to be few gender differences in soldiers' perceptions of the value of Army work and training, and its applicability to civilian work. This is especially true when analyses are limited to MOSSs which include both men and women, thus limiting the respondents to those with comparable training and Army-acquired skills. There are significant ethnic effects, however, with minority soldiers viewing their training as more

relevant to civilian employment. These differences hold, even when controlling for the type of MOS or branch (i.e., combat vs. non-combat). It seems, therefore, that minorities do consider Army training as more appropriate to post-service civilian occupations.

The data do suggest clear patterns of gender differences in opinions about downsizing. Women are generally less optimistic than men about the effectiveness of the methods used and the end results. They express less confidence in the Army's ability to retain the best soldiers, as well as indicating stronger beliefs that they will be vulnerable to early separation. Minority soldiers, on the other hand, are both more and less optimistic than White soldiers about the procedures and consequences of the Army's build-down. They are more likely to think that they will be targeted for separation, but minority soldiers are also more likely to believe that the Army will be able to maintain a high-quality force during its downsizing.



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